LAKE MEAD NATIONAL RECREATION AREA

Renovation of the Lake Mead Fish Hatchery

ENVIRONMENTAL ASSESSMENT

Nevada Division of Wildlife
and the
National Park Service

Lake Mead National Recreation Area
Clark County, Nevada

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US Department of the Interior, National Park Service

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SECTION I: PURPOSE AND NEED

Introduction

The Nevada Division of Wildlife (NDOW) is proposing the renovation of the Lake Mead Fish Hatchery (Hatchery) located within Lake Mead National Recreation Area (NRA) (Figures 1 and 2). The purpose of the project is to upgrade the entire fish production facility and incorporate educational opportunities for groups and the general public. Three additional housing units are included in the proposal and the project will require an additional 7.46 acres added to the National Park Service (NPS) lease area. The project also requires the construction of a 7,950-foot, 3-inch water line to connect the Hatchery with the Alfred Merritt Smith Water Treatment Plant.

This environmental assessment (EA) evaluates the no action and one action alternative and analyzes the various environmental and public health and safety impacts of each alternative. The alternatives analyzed are Alternative A: No action alternative, no facility renovation; and Alternative B: renovation of the fish hatchery.

Purpose and Need

The primary purpose of this project is to enhance the production of fish at the Lake Mead Fish Hatchery by replacing the majority of the infrastructure and facilities. The hard water from Lake Mead has severely corroded all steel piping and valves at this facility since it was constructed in 1972. The Hatchery lacks adequate water treatment facilities thus all drinking water is purchased as bottled water. The hatchery building, including the staff room, incubation room, shop and visitor center are in poor condition and inadequate. The staff room is also the location for stored chemicals, which can lead to unsafe conditions.

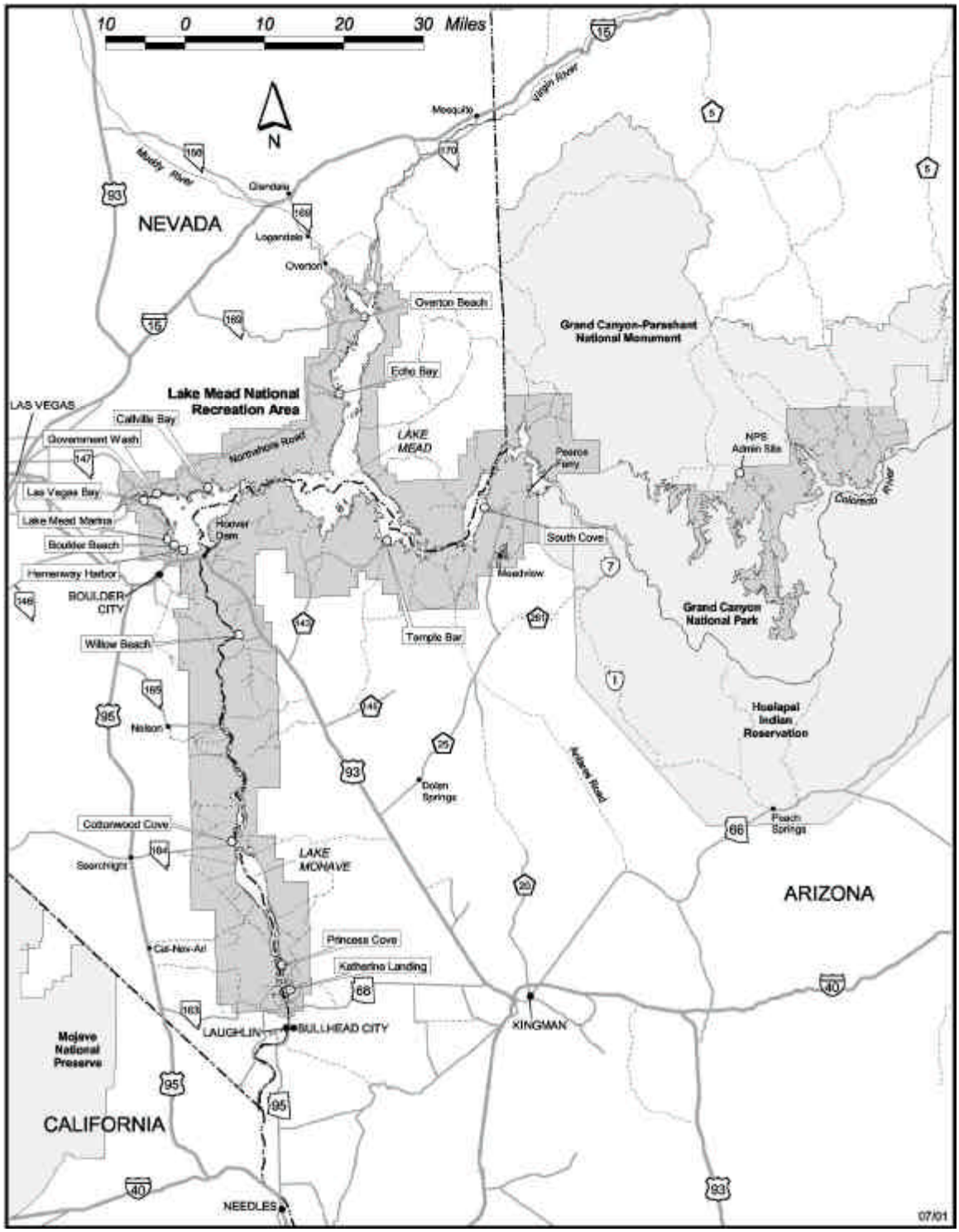
The outdoor ponds are deteriorating and asphalt around the entire facility is degraded. The roofing is damaged on the residences and the hatchery building. Predatory birds (mostly herons and egrets) have free access to the ponds and feed on the rearing trout and peck at the roofing insulation. The settling ponds for treating water are minimally effective, giving rise to concerns about the ability, in the future, to meet the Department of Environmental Protection water quality standards for return to Lake Mead.

The additional uses of the hatchery facility include the storage of law enforcement boats, the storage of equipment by the regional biologist and the use of a small area for the rearing of razorback suckers and bonytail chub as part of the native fish species program. Relocation of the native fish species would reduce fish disease concern from transfer and cross contamination.

The Hatchery is currently connected to the Basic Management Inc (BMI) waterline that supplies untreated lake water. This water is aerated at the head of the hatchery, and then used in both Hatchery operations as well as domestic non-potable water for the Hatchery and employee residences. It is desirable for health and safety concerns to replace the aerated water domestic supply with treated potable water. The estimated cost of all the improvements for this facility is $8.3 million.

Figure 1 – Regional Map
Lake Mead National Recreation Area

Figure 2 – Area Map
Lake Mead National Recreation Area



Background

Lake Mead Fish Hatchery is located on the western shore of Lake Mead (Figure 3). The hatchery was constructed in 1972 and placed in production in 1973. It consists of a hatchery, office building and shop combined, an incubation room with four incubators and 20 indoor hatchery troughs, 16 outdoor nursery ponds and 40 outdoor rearing ponds. There are two residences and one mobile home located on the site. These structures provide residences for three of the five employees necessary to ensure emergency coverage for the operation of the facility.

The facility was constructed within Lake Mead (NRA) under a Memorandum of Understanding (MOU) between the NDOW and the NPS. This MOU provides the state of Nevada the use of 12.17 acres of land for the purpose of operating a fish hatchery. An additional agreement between BMI and NDOW provided for the use of 4.92 acres in support of hatchery operations. Between the two agreements, NDOW has 17.09 acres within Lake Mead NRA dedicated to hatchery operations.

The Lake Mead Fish Hatchery is operated under the NDOW Strategic Plan adopted in 1997. The mission statement is "To protect, preserve, manage and restore wildlife and its habitat for their aesthetic, scientific, educational, recreational, and economic benefits to citizens of Nevada and the United States," and "promote the safety of persons using vessels on the waters of the state." Specifically, within the NDOW Fisheries Bureau, a major objective is to "increase fishing recreation opportunity by 20% of the 1988 to 1997 ten-year angler day average by 2003."

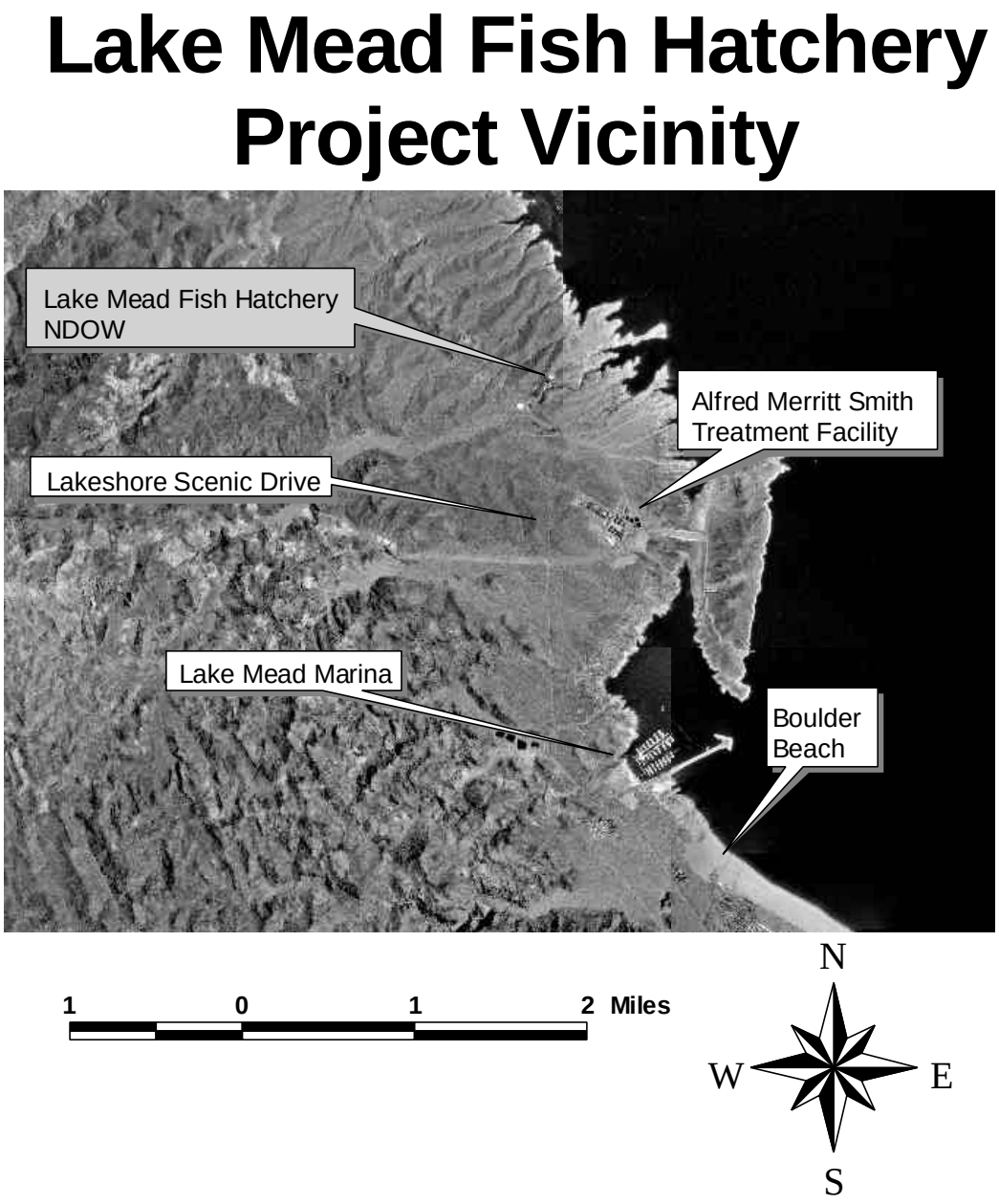
NDOW contracted for the preparation of a Schematic Design Report with FishPro, Inc. and Architects Plus, LLC. This report represents the findings to date based upon a process of field investigations, data collection and meetings held with NDOW personnel.

The development of the site plan for the Hatchery incorporated a number of functions. The site is physically constrained by site topography and its location with Lake Mead NRA. Associated with fish rearing activities are a number of other departmental needs that are accommodated. These activities are:

1. Meet production requirement of NDOW,
2. Produce quality fish meeting fish health guidelines,
3. Improve health and safety of facilities for hatchery staff and visitors,
4. Meet present and potential future water effluent guidelines,
5. Accommodate NPS requirements for compatibility and aesthetic and biological guidelines, and
6. Improve recreational and educational opportunities for the public.

The project site consists of 17 acres of developed property that is currently leased from the NPS. The rectangular shaped parcel is approximately 1300 feet long and 600 feet wide. It is located on a ridge with steep ravines on each side. The rectangular shape of the site and the existing steep slopes both within and around the property are major factors that have dictated the existing and future linear layout of the facilities on the property. Facilities currently on site include a hatchery building with a 24,000 sq. ft. footprint (Figures 4 and 5). The hatchery building currently contains offices, incubation, maintenance, and visitor's center

Figure 3 – Lake Mead Fish Hatchery Vicinity
Boulder Beach Development Zone, Nevada



Lake Mead Fish Hatchery Project Vicinity

Figure 4 – Lake Mead Fish Hatchery Project Area
Boulder Beach Development Zone, Nevada

Lake Mead Fish Hatchery Existing Facility

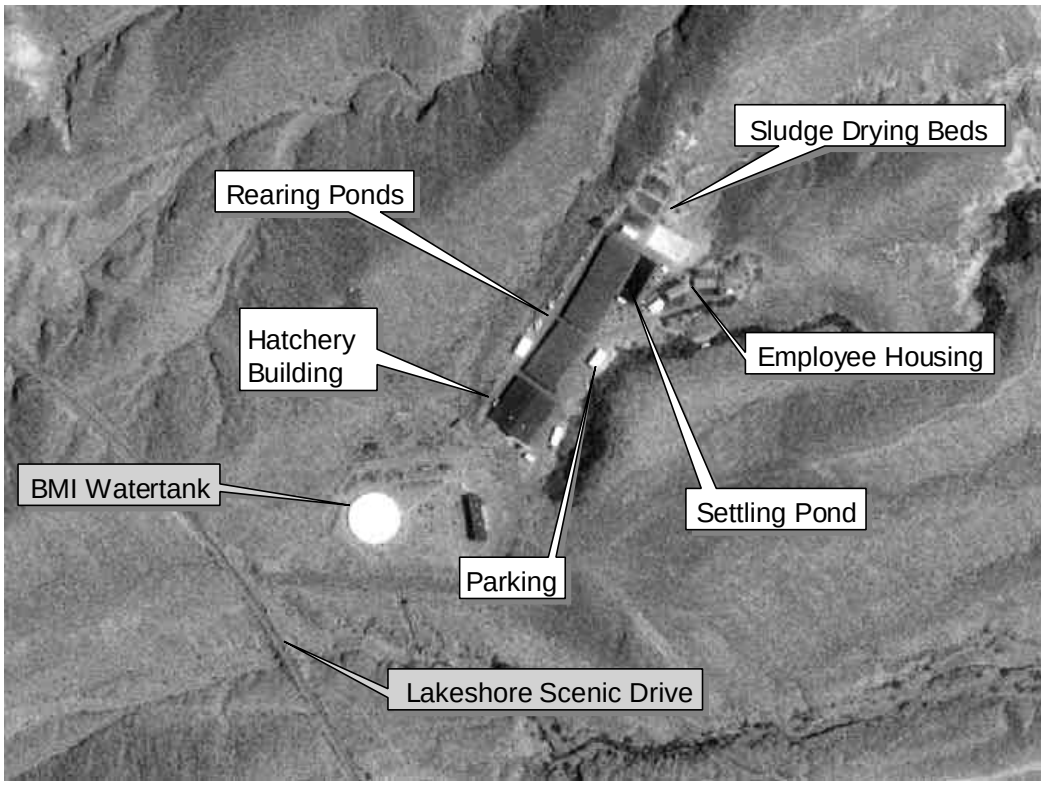


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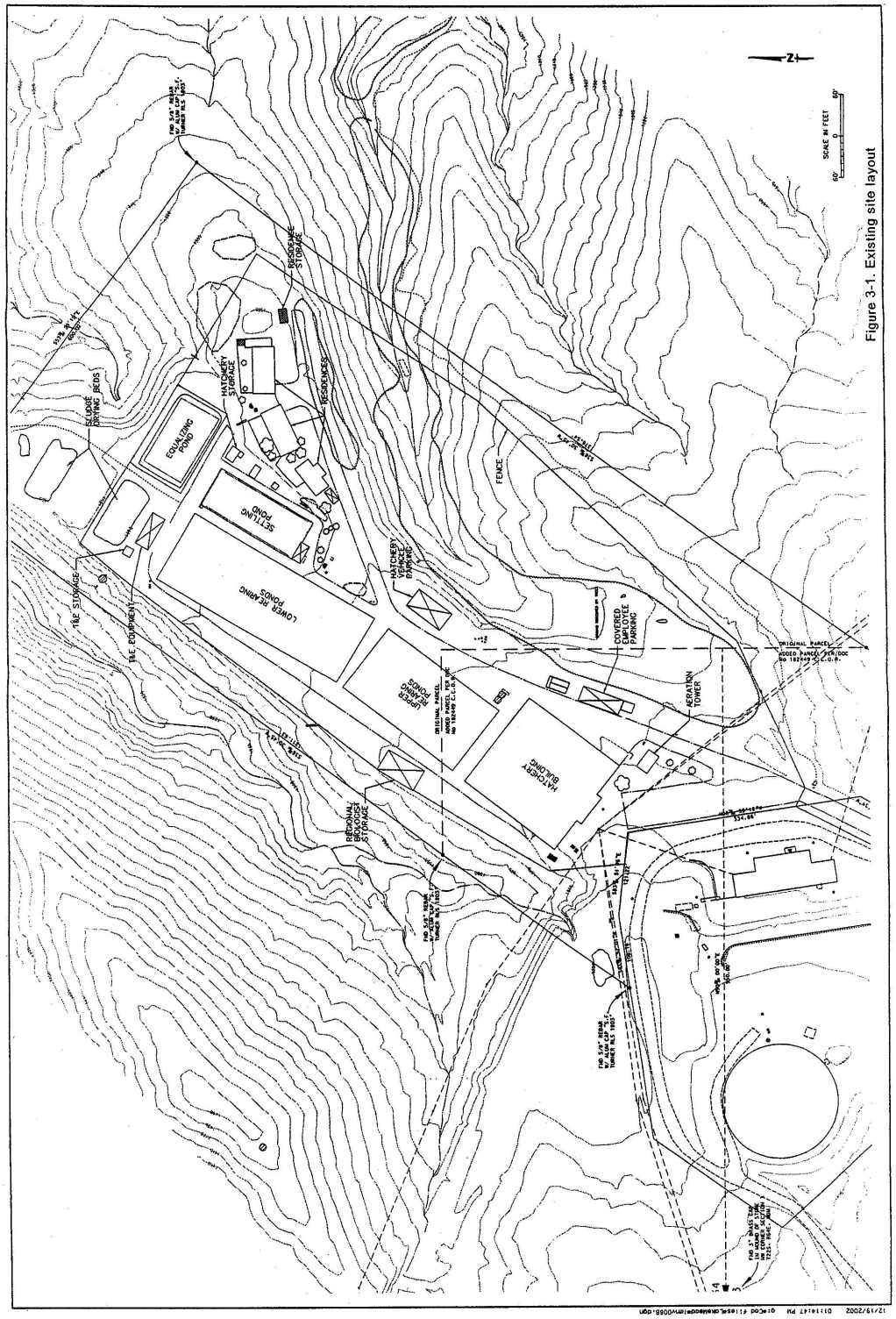
Figure 5 – Site Design of Existing Facilities



facilities. Two outside fish rearing areas, upper rearing and lower rearing, provide the growout areas for all trout production. A 22,000 sq. ft. open sided metal roof canopy covers the upper rearing area. Similarly, a 33,000 sq. ft. metal roof canopy protects the lower rearing area from the sunlight. There is an 800 sq. ft. covered rearing area for native fish rearing at the lower end of the site.

Other significant structures on the site include two residences with permanent foundations, a mobile home, and a number of smaller open-sided metal building structures serving as covered parking and storage facilities. In addition to the building structures, the site includes two wastewater treatment ponds and three drying beds.

The visitor's center is a room at the entrance of the facility with limited displays and information. The public is allowed to walk unattended around the exterior of the site. Parking is limited to a small number of passenger vehicles.

The quality of the Hatchery water supply is governed by environmental conditions experienced in Lake Mead. The Hatchery has been rearing fish at this site for thirty years, which indicates, in general, that water quality conditions are suitable for hatchery operations. Water quality issues of concern are temperature and dissolved gases.

In general, the water supply temperatures are excellent for rearing rainbow trout. The concern is for elevated temperatures during the incubation stage. Since eyed eggs are purchased three times a year (April, August and January), lake temperatures can exceed tolerable levels for incubation, which are considered to be 56 degrees Fahrenheit (F) or less. It should be noted that water temperatures as supplied to the hatchery show a steady increase over the last five years as indicated by the average annual temperatures. It is speculated that this increase is due to recent drought conditions and corresponding lake levels. Should this trend continue, the degree of water chilling required to maintain suitable incubation temperatures would increase.

Water temperatures can also become a concern during the summer months in the lower tier of raceways. The layout of the facility (raceways in series) and the design of the roof structure, cause a temperature increase of 2 to 3 degrees from incoming water to exit water at the lower end. If fish are stressed, especially in the lower raceway tiers, the temperature elevation exacerbates this degraded condition and can predispose them to disease. During the winter months, the temperature tends to remain constant throughout the system, although occasionally it may actually drop 1 or 2 degrees when the air temperature drops below 60 degrees F.

The dissolved oxygen level in the incoming lake water is less than saturated, requiring aeration. Currently the water is aerated in a pagoda style aerator located within the aeration tower. On-site readings were taken on August 18, 2000 to develop an oxygen profile from the aeration tower to the end of the last series of raceways. Water entering the aerator had a dissolved oxygen (DO) reading of 6.7 micrograms per liter (mg/L). After aeration, the DO increased by 0.44 mg/L to 7.15 mg/L. Saturation at this site (1,380 ft above mean sea level (msl) and 58 degrees F) is 9.7 mg/L. The current aerator is operating at 74% efficiency. Aeration systems should be operating at or near 95% efficiency, which would provide a DO of 9.2 mg/L.

As the site is designed in series, water from each raceway set is aerated via splashing as it falls into the next set of raceways at a lower elevation. This method of aeration is not meeting the needs of the lower raceways, as the DO continues to drop in each lower series. Note that these raceways were not at their heavier loadings and that they had 30% more flow than normal. The DO at the end of the series was 5.16 mg/L, which is below a desired minimum DO of 7 mg/L. Under heavy fish loadings, the DO has been known to drop below 4 mg/L and on occasion low DO at night has caused major fish die offs.

Total dissolved gases (in particular nitrogen gas) were also recorded in August of 2000. Nitrogen gas entering the hatchery was recorded at 110% with levels exceeding 107% after aeration through the aeration tower and cascading through the five series of raceways. Nitrogen gas levels should not exceed 101% for incubation and 102% for larger fish to prevent gas bubble disease and enhance the general health of the fish. Elevated levels of nitrogen cause an unhealthy environment and increase stress that could lead to other physical complications.

ENVIRONMENTAL ASSESSMENT

This EA analyzes the proposal and the no-action alternative and their impacts on the natural and human environment. It outlines the project alternatives, describes existing conditions in the project area, and analyzes the effects of each alternative on the environment. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the regulations of the Council of Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1508.9), and NPS Director's Order-12, Conservation Planning, Environmental Impact Analysis, and Decision Making (DO-12).

RELATED LAWS, POLICIES AND PLANNING DOCUMENTS

The enabling legislation for Lake Mead NRA (PL 88-639), established the recreation area "for the general purposes of public recreation, benefit, and use, and in a manner that will preserve, develop and enhance, so far as practicable, the recreation potential, and in a manner that will preserve the scenic, historic, scientific, and other important features of the area, consistent with applicable reservations and limitations relating to such area and with other authorized uses of the lands and properties within such area." The Secretary was authorized, under the Act, to provide for general recreation use. General recreation use was defined within Section 4(b) of this legislation, and included bathing, boating, camping, and picnicking.

The 1986 Lake Mead NRA *General Management Plan* provided the overall management direction for Lake Mead NRA. It established management zones to accommodate increasing visitor use while protecting park resources.

The 1998 Lake Mead NRA *Strategic Plan* established goals relating to resource protection, public enjoyment, and visitor satisfaction. The 2001 *Strategic Plan* has reaffirmed these goals.

NPS *Management Policies* (2001) requires the analysis of potential effects to determine if actions would impair park resources. Under the NPS Organic Act and the General Authorities Act, as amended, the NPS may not allow the impairment of park resources and values, except as

authorized specifically by Congress. The NPS must always seek ways to avoid or minimize, to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the NPS management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment to the affected resources and values (Management Policies 1.4.3).

In 1972 the NPS entered into an agreement with the state of Nevada for the construction and operation of a fish hatchery within Lake Mead NRA. NDOW has provided high quality fishing opportunities for the public since the inception of the Hatchery as evidenced by 1.6 million annual angler use days and 154,000 fishing licenses based on 1999 statistics. An additional 29,000 non-resident licenses are sold annually.

Currently, the NPS and Bureau of Reclamation (Reclamation) are working with the Clean Water Coalition to develop alternatives and issues, under the Systems Conveyance and Operations Program (SCOP), to protect the water quality of Lake Mead and the Las Vegas Wash.

ISSUES AND IMPACT TOPICS

Issues are related to the potential environmental effects of project alternatives. Public scoping occurred between November 14 and December 2, 2002, to assist in the development of alternatives and issues associated with the proposed project. No comments were received. The NPS interdisciplinary team formulated issues related to the environmental impacts that the alternatives may present. Impact topics based on substantive issues, environmental statutes, regulations, and executive orders (EOs) were selected for detailed analysis. A summary of the impact topics and rationale for their inclusion or dismissal is included below.

Impact Topics Identified for Further Analysis

Soils and Vegetation. Soils would be disturbed on the original 17-acre project area and the additional 7.5-acre expansion area. These lands would be permanently altered from paving and construction activities. Vegetation would be removed from the project area. An additional 2 acres of land would be used for the installation of a 3-inch waterline along the road shoulder of Lakeshore Drive. These lands were previously disturbed as part of the road renovation work completed in 2001. The potential for the introduction of non-native vegetation exists in areas of soil disturbance.

Wildlife. The area does not provide high quality wildlife habitat, however, the small mammals, birds, and reptiles that utilize the area would be permanently displaced by construction of the hatchery facility and parking lots. Wildlife habitat has been and will continue to be enhanced and created on the hatchery site due to the outlet stream created from the Hatchery water discharge.

Water Quality: The settling ponds for treating water are minimally effective, giving rise to concerns about meeting potentially future more stringent Department of Environmental Protection water quality standards for return to Lake Mead under current conditions.

Air Quality. Air quality may be impacted temporarily during construction activities.

Scenic Quality. The scenic quality of the area around the project site is considered low due to the location in an existing developed area and immediately adjacent to the Alfred Merritt Smith Water Treatment Facility. The building would be constructed in accordance with NPS standards to blend in with the surrounding environment.

Cultural Resources. Several historic and prehistoric archeological sites have been recorded in the Boulder Beach area. The impact of this project on cultural resources will be evaluated as required under Section 106 of the National Historic Preservation Act.

Visitor Use. Temporary closures of certain areas to visitors could occur due to construction activities. Visitor access to fishing information would be enhanced through the renovation of the visitor center and the interpretive displays.

Safety. Safety of visitors, park employees, and contractors is considered an important issue and will be considered during the construction and renovation activities. Safety of water recreationists could improve as fishing and safety messages are available to the general public.

Land Use. Approximately 7.46 acres of NPS administered lands would be added to the existing lease site at the Lake Mead Fish Hatchery.

Issues Considered but Dismissed from Further Consideration

Several issues were considered during the planning process but were considered insignificant or were dismissed from further consideration because there were no potential effects to these resources.

Threatened and Endangered Species. A recent listing of threatened and endangered species was consulted by NPS biologists who determined that none exist in the project site (Appendix A). Desert tortoise habitat exists nearby but the existing hatchery site and proposed expansion area is not occupied desert tortoise habitat (Boyles 2002). The west side of Lakeshore Road is fenced with tortoise fencing, as are the hatchery facilities, which precludes tortoises from occupying the project sites, therefore, there would be no effect to desert tortoises. No sensitive or rare plants exist in the project site.

The following topics are not further addressed in this document because there are no potential effects to these resources, which are not in or adjacent to the project area:

- Designated ecologically significant or critical areas;
- Wild or scenic rivers;
- Wetlands or Floodplains;
- Designated coastal zones;
- Sacred Sites;
- Indian Trust Resources;
- Prime and unique agricultural lands;

- Sites on the US Department of the Interior's National Registry of Natural Landmarks;
- Sole or principal drinking water aquifers.
- Designated or Proposed Wilderness Areas

In addition, there are no potential conflicts between the project and land use plans, policies, or controls (including state, local, or Native American) for the project area. There are no sensitive noise receptors in the project area, other than Lake Mead NRA. The dominant noise source in the project area is automobile and truck traffic on Lakeshore Road, and boat noise from boat traffic on the Boulder Basin. Since the proposed relocation sites are located in a developed area, where noise occurs regularly and is expected, and the site is zoned appropriate for mechanical noise, soundscape will not be further evaluated.

Regarding energy requirements and conservation potential, construction activities would require the increased use of energy for the construction itself and for transporting materials. However, overall, the energy from petroleum products required to implement action alternatives would be insubstantial when viewed in light of production costs and the effect of the national and worldwide petroleum reserves.

There are no potential effects to local or regional employment, occupation, income changes, or tax base as a result of this project. The project area of effect is not populated and, per EO 12898 on Environmental Justice, there are no potential effects on minorities, Native Americans, women, or the civil liberties (associated with age, race, creed, color, national origin, or sex) of any American citizen. No disproportionate high or adverse effects to minority populations or low-income populations are expected to occur as a result of implementing any alternative.
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SECTION II: DESCRIPTION OF ALTERNATIVES

Introduction

This section describes the alternatives considered in the analysis, including the no action alternative, the management preferred alternative, and a description of any alternatives considered early in the process but later eliminated from further study. Reasons for the dismissal of these alternatives are provided. The alternatives described include mitigation measures proposed to minimize or avoid environmental impacts.

Alternative A: No Action – No Construction or Renovation of the Lake Mead Fish Hatchery

Under this alternative there would be no construction or renovation of the Lake Mead Fish Hatchery and a waterline connecting the hatchery with the Alfred Merritt Smith Water Treatment Plant would not be constructed. No new land assignment would be required.

Alternative B: Construction and Renovation of the Lake Mead Fish Hatchery (The Environmentally-Preferred and Management-Preferred Alternative)

Under this alternative, the Lake Mead Fish Hatchery would be renovated. An additional 7.46 acres of Lake Mead NRA would be added to the operation of the Lake Mead Fish Hatchery under this proposal (Figures 6 and 7). This alternative includes the following components:

Table 1: Lake Mead Hatchery Refurbishment Elements

Component of Alternative	Issue	Solution under Alternative B	Goals
Hatchery Water	Domestic water is mixed with hatchery water supply.	Water system would be designed and developed to be independent from hatchery operational waters. A 7,950-foot new waterline would be constructed from the Alfred Merritt Smith Water Treatment Plant	To provide safe water supply for entire facility. To sufficiently aerate production (hatchery) water. To provide the ability to manipulate water flows and routine maintenance.

Component of Alternative	Issue	Solution under Alternative B	Goals
Potable Water	Domestic water is untreated and unhealthy and can not be used.	An independent domestic water supply would be provided to Hatchery residents.	To provide safe water supply to staff in required housing and to hatchery visitors.
Production Water Piping and Valves	There are highly corroded piping and valves.	Piping and valves would be replaced.	To supply sufficiently aerated water.
Residences	Two employees living off-site. There is a need for staff on site to respond to emergencies.	Existing housing units would be replaced and three new housing units would be added.	To provide for staff on site to share in standby duties.
Telecommunications	There is an insufficient telephone service; no modem or alarm lines are available.	System would be upgraded to 50 pair.	To provide residences and facilities with appropriate telecommunications.
Water Temperature	Water temperature can exceed desired temperature during certain times of the year.	The chilled incubation supply would be recirculated to minimize chiller requirements.	To provide the optimum temperatures for fish rearing.

Component of Alternative	Issue	Solution under Alternative B	Goals
Dissolved Oxygen	Aerator does not operate at optimum efficiency.	The aeration tower would be reconstructed to add oxygen and strip nitrogen using a degassing packed column. Low head oxygenators would be added for each series of raceways.	To provide the optimum levels of oxygen and strip nitrogen in the water.
Raceways/ponds	Raceways and ponds have deteriorated concrete, valves, and screens. There is a lack of protection from bird predation.	Raceways and ponds would be replaced. Fences and screen pedestals would be replaced. An oxygen generation system would be installed.	To provide functional valves and pond system, eliminate bird predation, and provide safe access for employees.
Incubation Room	Piping, valves, trough screen, and incubators are in disrepair. Electrical plugs do not have ground fault interruption.	Worn-out items would be replaced; all outlets would be "gfi"; oxygen generator and lines to troughs would be installed for use during water shortages.	To provide a reliable and safe area for employees and to allow an upgrade in worn out resources.
Hatchery Building Roof	Roof has deteriorated underside insulation; it leaks and sections are missing.	Roof would be replaced and attached with mechanical fasteners, coated with white roofing and white paint.	To provide a functional roof.

Component of Alternative	Issue	Solution under Alternative B	Goals
Mechanical Room	Chiller inoperable and was removed in 2001, alarm system is not reliable and there is no bulk ice storage.	Chiller unit and transformers would be replaced; alarm system would be upgraded; storage facilities would be replaced.	To provide a safe electrical environment, provide appropriate mechanism for filling trucks, and provide a reliable alarm system and storage facilities.
Settling Ponds	Settling pond design does not lend itself to proper and efficient cleaning. .	Rotary drum screens would be installed to filter the hatchery effluent.	To provide efficient treatment of hatchery effluent and meet DEP standards for discharge of treated water back into Lake Mead.
Shop	Shop facilities are too small, not air conditioned and utilize old and unsafe power tools.	Garage and shop would be relocated and existing shop area would be converted to an office.	To provide a safe and appropriate work environment for hatchery employees.
Office	Offices has inadequate space and are poorly constructed and are used for multiple functions and do not meet staff needs.	The visitor center office would be renovated.	To provide independent office space, staff lunch room, and laboratory space.

Component of Alternative	Issue	Solution under Alternative B	Goals
Visitor Center	Existing facility provides mostly "self help" projects; no professional exhibits (unacceptable for the most visited hatchery in the state).	The interpretive center and displays would be reconstructed.	To offer a quality hatchery interpretive area to accommodate 150,000 visitors per year.
Asphalt roadways and parking areas	Roads and parking lots have deteriorated surfaces and are inadequate to accommodate school buses.	Asphalt would be replaced, and parking lot bumpers, striping, and handicapped parking would be added. A bus turn around area would be added.	To provide for quality facilities.
Mobile Homes	Mobile homes are inadequate for employee housing.	Mobile homes would be replaced with stick built housing.	To provide decent housing for employees.
Existing Residences	Residences currently have hard water issues; single pane windows; and carports.	Windows and water systems would be replaced; garages would be added.	To provide decent housing for employees.
Fencing	Fencing is in disrepair throughout the facility.	Fencing would be repaired or replaced. New areas would be properly fenced for station security and public safety, and an electric entrance gate would be installed.	To restore functional fencing and protect adjacent lands.
Chemical Storage	No chemical storage is available on-site.	A chemical storage unit with appropriate safety elements would be constructed.	To provide safe storage and handling of chemicals.

Component of Alternative	Issue	Solution under Alternative B	Goals
Bulk Feed Bins	Insufficient storage, inadequate location for bulk feed.	Existing feed bins would be relocated and two additional feed bins would be added; and a safety cage and walkway would be constructed.	To allow for feed storage for proper fish diets, allow for bulk delivery, and safe access.
Boat Storage Shelter	Existing facility is not secure and provides poor storage conditions.	A new boat enclosure would be constructed.	To provide secure storage for large equipment.
Landscaping	Existing landscaping creates a poor image of the facility.	A xeroscape landscaping plan utilizing native vegetation would be developed.	To provide a professional greeting to all visitors and protect native park vegetation.
Security Gate and Mailboxes	Existing facility requires manual lock and no security during daylight hours.	An automatic gate and secure mailboxes would be constructed.	To improve security and protect the facility.

The alignment of Lakeshore Road requires installing the pipeline parallel to the roadway, at a distance of approximately four feet from the existing edge of the pavement (Figures 8 and 9). One concern with this alignment is the narrow shoulder of the road in some places. According to visual inspections by Montgomery Watson Harza engineers, approximately 20% of the alignment would have shoulders too narrow to accommodate the proposed waterline . To allow for the proposed four-foot separation from the pavement edge, it would be necessary to widen the shoulders in these areas. It is estimated that approximately 4,500 cubic yards of backfill would be required.

The pipeline peak hour design flow is 40 gallons per minute based on demand projections. Using the established flow velocity criteria, this would require a minimum pipeline diameter of 2 inches.

Cost and Funding

The estimated planning, design, and construction cost of the state fish hatchery is $8.3 million. This project is part of a statewide initiative to refurbish the state fish hatchery system in the amount of $21 million. To continue to meet the statewide demand for hatchery produced trout, significant renovation of all facilities will be necessary. NDOW is proposing to fund the renovation project by a state bond initiative with repayment from a variety of sources including trout stamp revenue and federal aid.

Figure 6 – Proposed Site Layout

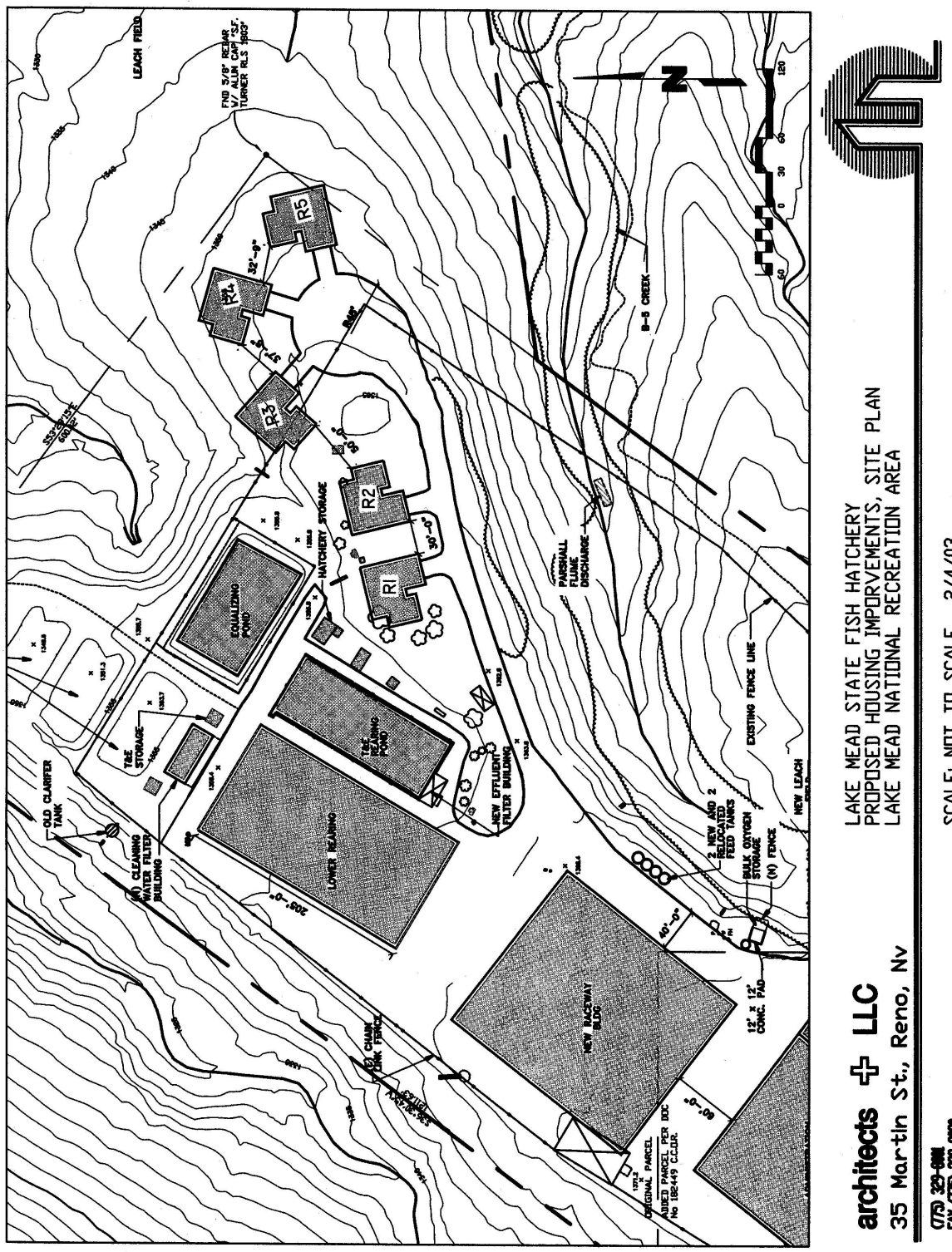


Figure 7 – Modified Lease Area

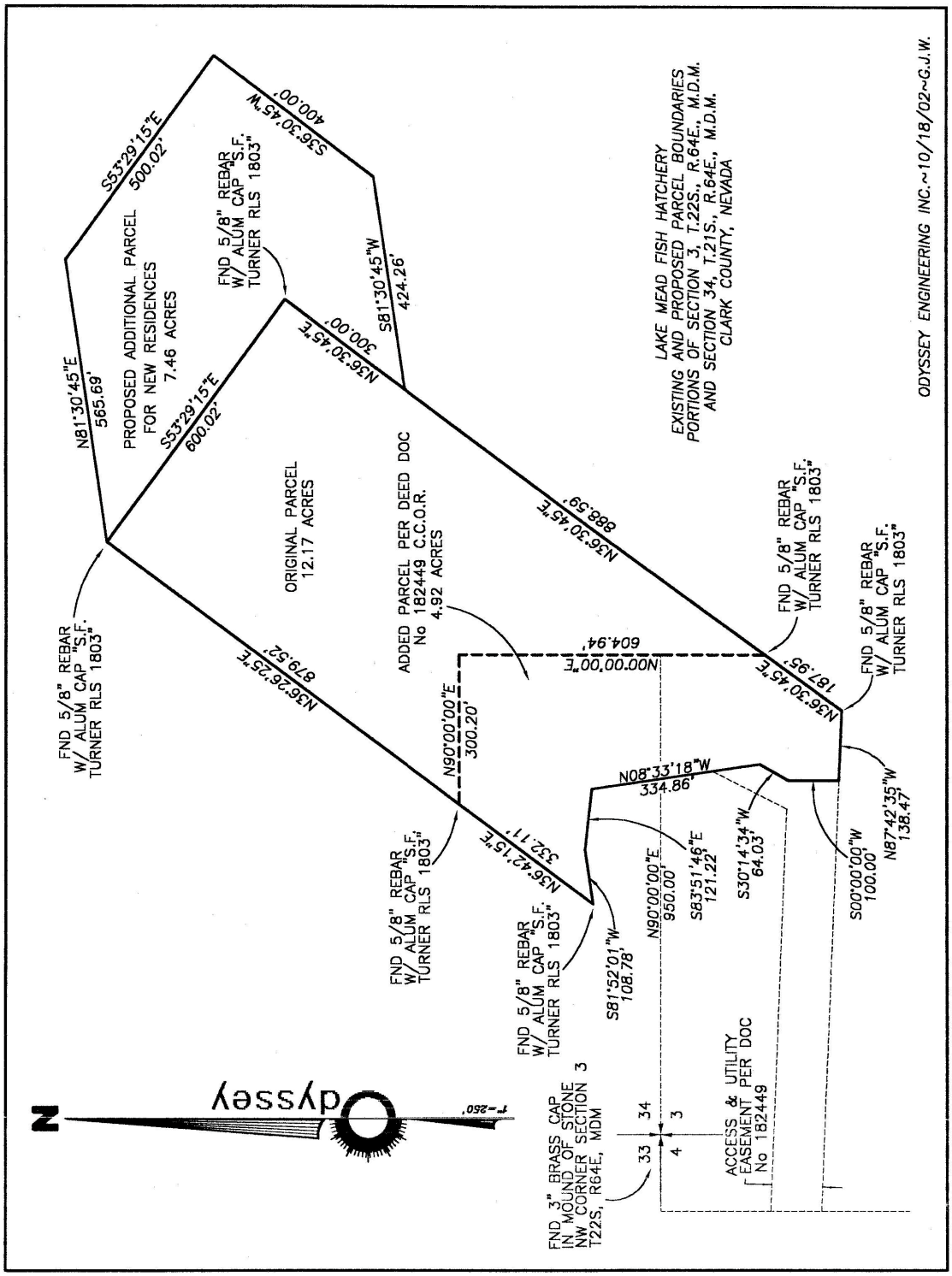


Figure 8 – Proposed Waterline Area Site Plan

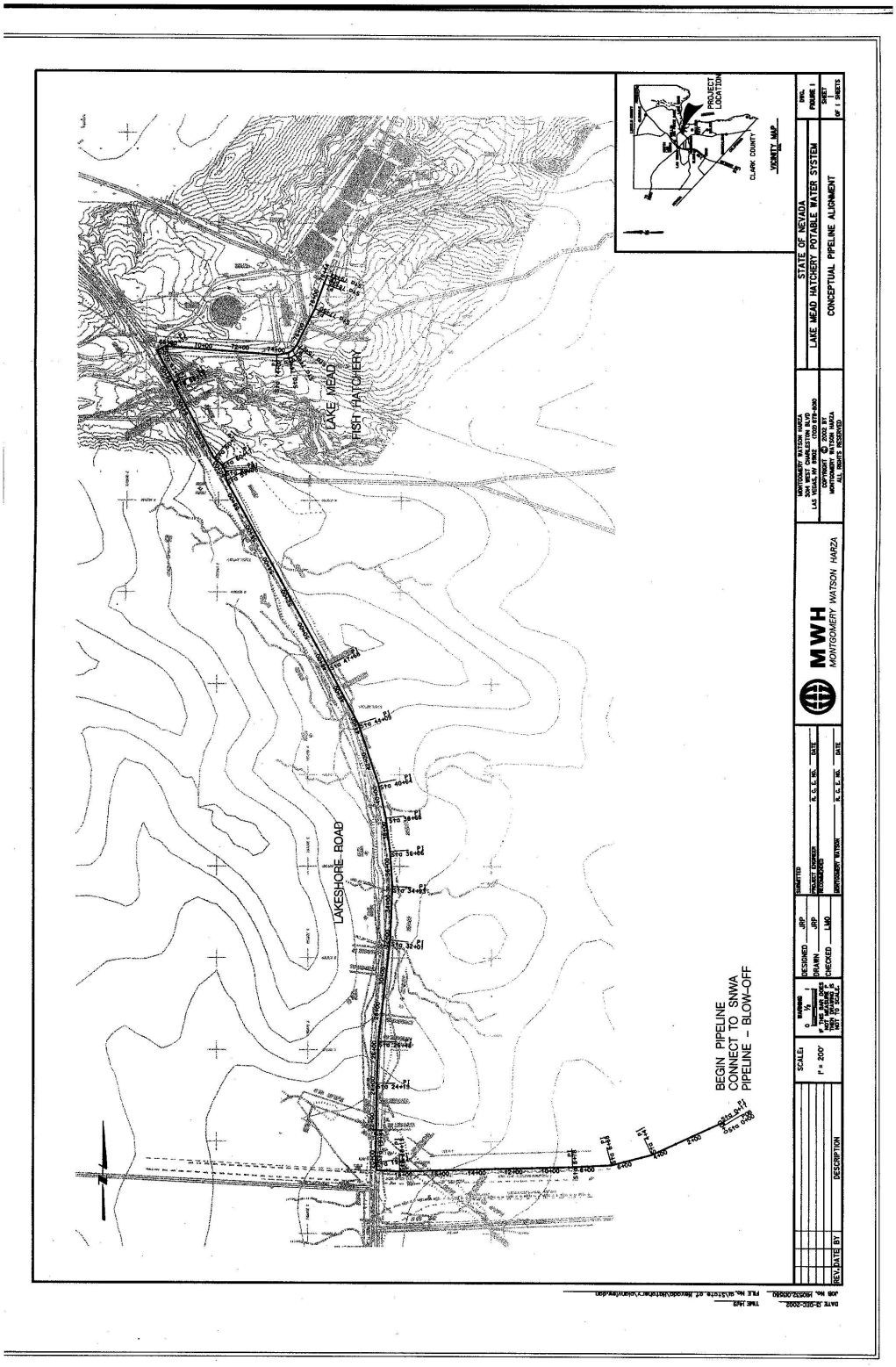
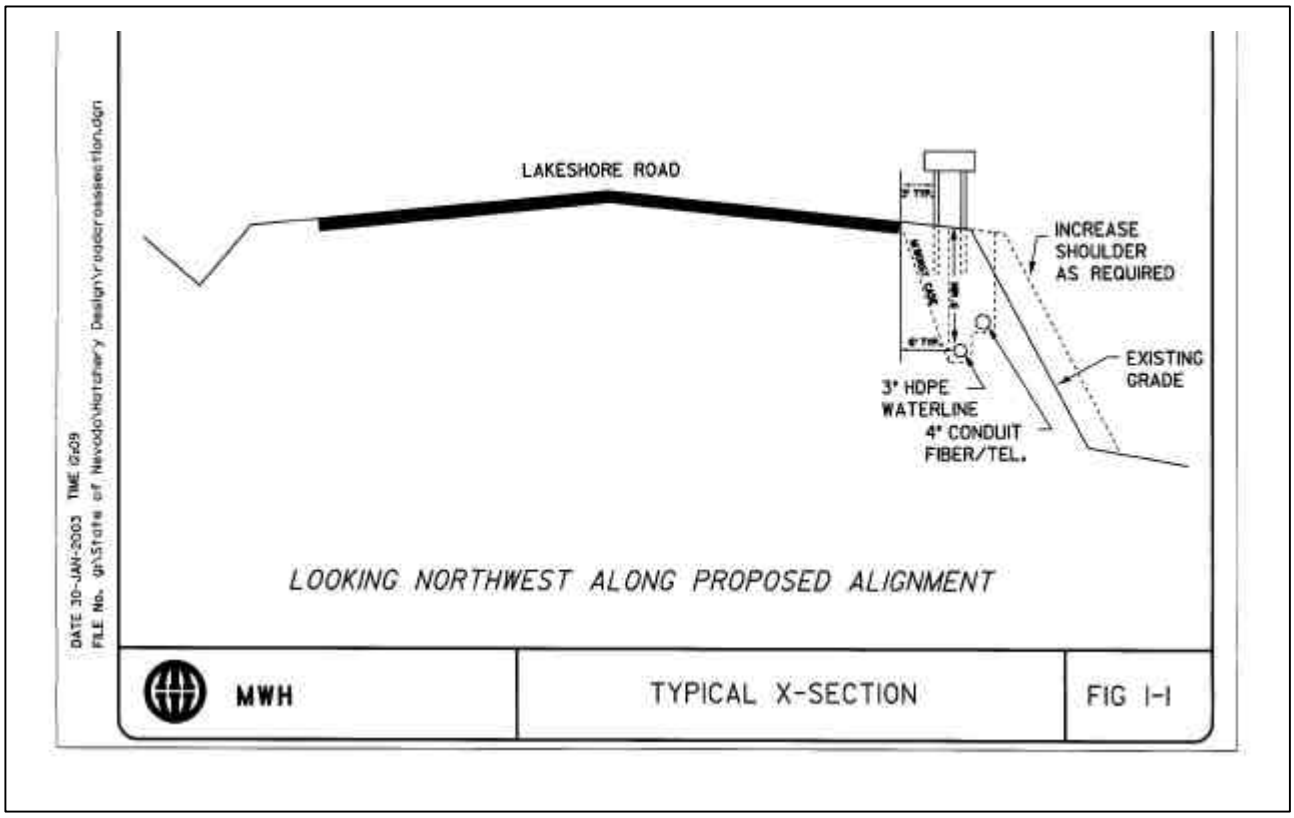


Figure 9 – Proposed Waterline Alignment
Photo of Existing Conditions and Cross Section



MITIGATION AND MONITORING

Mitigation measures are specific actions that when implemented reduce impacts, protect park resources, and protect visitors. The following mitigation would be implemented under the alternative(s) specified and are assumed in the analysis of effects for the alternative.

Soils and Vegetation. NDOW would remove all non-native species from the leased area and revegetate the leased area with native species provided by the Lake Mead NRA nursery, in coordination with NPS restoration specialists. Areas near construction sites and disturbed sites would be landscaped and revegetated with native species.

NDOW would work with the NPS to follow the procedures for collecting and propagating native species, salvaging topsoil, site grading and soil preparation, erosion control, vegetation reestablishment, and post-construction monitoring for non-native species.

To prevent the introduction of, and minimize the spread of non-native plant species, the following measures would be implemented prior to construction:

- All construction equipment would be pressure washed or steam cleaned prior to entering the recreation area;
- Minimize soil disturbance;
- Limit vehicle parking to existing roadways, parking lots, or the access route;
- Obtain all fill, rock, or additional topsoil from the project area;
- Initiating revegetation of disturbed sites immediately following construction activities;
- Monitoring disturbed areas for up to three years following the construction to identify growth of noxious weeds or non-native vegetation (NPS biologists)
- Salvaging and storing desert soils and replacing them as close as possible to their original locations;
- Clean all rip-rap prior to transporting into the recreation area.

Threatened and Endangered Species.
There are no threatened, endangered, or sensitive species at the project site (Boyles 2002). No mitigation would be required.

Air Quality. Dust abatement measures would be utilized during construction activities.

Scenic Quality. The facility would be located and designed to meet the architectural theme of the recreation area and minimize visual intrusion on the landscape. The site would be screened from the view of lake users by an earthen berm and landscaping, under the coordination of the NPS.

Cultural Resources. A 140-acre block was inventoried around the fish hatchery (Gushue 2003). No cultural resources were located within the APE for this project. The pipe line from the water treatment facility to the fish hatchery will be installed in previously disturbed road shoulders and will have no effect on cultural resources

Government to government consultation with Native American Tribes would be conducted to identify any issues and areas of concern the Native Americans may have relating to the project area.

Should unknown cultural resources be uncovered during construction, work would be halted in the discovery area, the site would be secured, and the recreation area would consult according to 36 CFR 800.13 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. In compliance with the Native American Graves Protection and Repatriation Act of 1990, the NPS would also notify and consult concerned tribal representatives for the proper treatment of human remains, funerary objects, and scared objects should these be discovered during the course of the project

Visitor Use. Whenever possible, NDOW would adjust its work schedules, particularly the timing of construction activities, to minimize impacts to park visitors. Facility construction would be prioritized and phased wherever possible to minimize disruption of park operations and visitor use.

Safety. The construction zone would be fenced and visitors would be prohibited from entering the area. Traffic would be directed around the area to avoid conflict with construction equipment and on-site personnel. Chemicals used in the operation of the Hatchery would be properly stored and handled in compliance with all state and federal standards.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER EVALUATION

The alternative to locate the Hatchery outside the boundaries of the recreation area was considered but dismissed. The facility currently exists on park lands and the NPS supports facility improvements in its current location. In addition, there is limited property available adjacent to the recreation area, and the high cost of the available property makes this option economically unfeasible. One of the goals of the Hatchery is to be located where water-based recreationists are located, near the lake, providing a centralized location for fisheries education. In addition, the close proximity to the lake has advantages for the operation of the trout stocking program.

An alternative location for the water line from the Alfred Merritt Smith Water Treatment Plant was considered but dismissed. The alternative location, on the existing Saddle Cove road, was determined to be infeasible because of the difference in length of the two options. The site for the connection to the Southern Nevada Water Authority waterline is located near Lakeshore Road thus making the route along Lakeshore Road much shorter than going from the water treatment plant and following the Saddle Cove Road. The difference was about 3,100 feet. A

fiber-optic phone line would also be placed in the trench with the waterline. Combined, the cost for the added length made this option prohibitive. In addition, NDOW has agreed to place the waterline at a depth of 5 feet to minimize this potential conflict with park maintenance operations.

PERMIT REQUIREMENTS

This project does not require compliance with Executive Order 11988 (Floodplain Management), Executive Order 11900 (Protection of Wetlands), or the Fish and Wildlife Coordination Act.

Concurrence from the Nevada State Historic Preservation Office is required in accordance with section 106 of the National Historic Preservation Act (NHPA).

NDOW would obtain a dust-control permit from the Clark County Health District, Air Pollution Control Division, prior to initiating any construction activities.

A utility right-of-way permit between NDOW and the NPS is required for the proposed 7,950-foot waterline connecting the Hatchery with the Alfred Merritt Smith Water Treatment Plant. This connection would be parallel Lakeshore Drive and would provide potable water to the facility.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

According to the Council on Environmental Quality regulations implementing NEPA and DO-12, an environmentally preferred alternative must be identified in EAs. The environmentally preferred alternative is the alternative that will promote NEPA, as expressed in Section 101 of NEPA and meet the following criteria:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

- Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.

- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.

- Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.

- Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.

- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative B is the environmentally preferred alternative because overall it would best meet the requirements of Section 101 of NEPA. Alternative B would ensure safe, healthful, and aesthetically and culturally pleasing surroundings by allowing the renovations of the Hatchery. Renovating the Hatchery would improve visitor services, and provide a healthful and safe environment for visitors and Hatchery employees. It would improve operations efficiency and sustainability. It would prevent the loss of natural resources and protect important aspects of the recreation area, including the water quality of Lake Mead.

COMPARISON OF IMPACTS

Table 2 summarizes the potential long-term impacts of the proposed alternatives. Short-term direct and indirect impacts are not included in this table but are analyzed in the Environmental Consequences section.

Table 2. Comparison of Long-Term Impacts from the Alternatives Considered

IMPACT TOPIC	ALTERNATIVE A (NO ACTION)	ALTERNATIVE B (PREFERRED)
Soils and Vegetation	No long-term impacts	Minor adverse impacts Some beneficial effects
Wildlife	No long-term impacts	Minor adverse impacts
Threatened and Endangered Species	No long-term impacts	No long-term impacts
Air Quality	No long-term impacts	No long-term impacts
Water Quality	Minor adverse impacts	Some beneficial effects
Cultural Resources	No long-term impacts	No long-term impacts
Scenic Quality	Negligible adverse impacts	Negligible adverse impacts
Visitor Use and Safety	Potentially moderate adverse impacts	Some beneficial effects
Land Use	No long-term impacts	Negligible adverse Impacts

SECTION III: AFFECTED ENVIRONMENT

Introduction

This section describes the portion of the natural and human environment that may be affected by the proposal. The project area is located on the west shore of the Boulder Basin of Lake Mead, immediately north the Alfred Merritt Water Treatment Plant on Lakeshore Road. The existing facility is located on 25.5 acres of NPS administered land and is accessible by paved roads (Figures 10 and 11).

Natural Resources

The soils within the developed zone of Boulder Basin are generally previously disturbed rocky soils consisting of a mix of sand and gravel in a broad alluvial fan. The developed area occurs in the creosote bush community. The vegetation in the project area consists primarily of native creosote (*Larrea tridentata*), brittle bush (*Encelia faranosa*), sweetbush (*Bebbia juncea* var. *aspera*), and catclaw (*Acacia greggii*) (Figure 12). The general area has been exposed to two major construction projects: the upgrade of the Alfred Merritt Water Treatment Plant and the upgrade of Lakeshore Drive.

Small mammals, reptiles, and coyotes are found within the developed zone at Boulder Basin. No sensitive, threatened, or endangered plant or animal species are known to occur in the project area. However, desert tortoise habitat is located nearby across Lakeshore Road. A permanent tortoise fence prevents tortoise from traveling across Lakeshore Road into the project site (Figure 13). The hatchery project area is fenced with a perimeter chain-link fence.

Cultural Resources

Cultural resource inventories in the Boulder Beach developed zone have identified a number of historic and prehistoric resources. The prehistoric resources include artifact scatters, cleared areas, and rock shelters. The historic resources include structures related to early mining activities, the construction of Hoover Dam, and early park development.

The project area was inventoried for cultural resources and none were located within the APE (Gushue 2003). The pipe line from the water treatment facility to the fish hatchery will be installed in previously disturbed road shoulders and will have no effect on cultural resources

Socioeconomic Resources and Visitor Use

The proposed project location is within the Boulder Beach development zone. The Boulder Beach zone is one of the most heavily visited portions of the recreation area. The area provides numerous recreational opportunities. There is a concession-operated lodge and marina, trailer village and campground; and government-maintained launch ramps, campground, picnic areas, and ranger station. The main water-related activities include fishing, scuba diving, swimming, boating, jetskiing, water-skiing, and sailboarding.

Figure 10 - Project Area – Lake Mead Fish Hatchery

Figure 11 - Project Area – Lake Mead Fish Hatchery

Figure 12 - Project Area Vegetation

Figure 13 - Tortoise Fencing

North of the Boulder Beach area, the area is developed to support the Alfred Merritt Water Treatment Plant. This is a large municipal complex that provides limited visitor access. The River Mountain Loop Trail provides pedestrian and bicycle access through the site but vehicle access is limited to employees and traffic necessary for plant operations. There is also national security issues associated with the water treatment plant and the site, in addition to fencing, supports a 24-hour security patrol.

SECTION IV: ENVIRONMENTAL CONSEQUENCES

Introduction

The environmental consequences section analyzes both beneficial and adverse impacts that could result from the two alternatives. Impacts are evaluated based on context, duration, intensity, and whether they are direct, indirect, or cumulative impacts.

Methodology

This section contains the environmental impacts, including direct and indirect effects and their significance to the alternatives. It also assumes that the mitigation identified in the *Mitigation and Monitoring* section of this environmental assessment would be implemented under the action alternative.

Impacts are evaluated based on the most current and comprehensive scientific and social data available. Much of the information found was generated by the Lake Mead NRA biologists, resource management specialists whose focus is on wildlife and vegetation, and archaeologists. Follow-up contacts with these specialists were made to assist with interpreting the information, and to provide additional information related to impacts. In the absence of quantitative data, best professional judgement prevailed.

Related Laws, Regulations, and Policies for Impact Topics

The following are laws, regulations, and/or guidance that relate to the evaluation of each impact topic.

Soils and Vegetation

Laws, Regulations, and Policies: The NPS Organic Act directs the park to conserve the scenery and the natural objects unimpaired for future generations. Soil resources will be protected by preventing or minimizing adverse potentially irreversible impacts on soils, in accordance with NPS *Management Policies*.

Resource Management Guidelines, (NPS-77) specifies objectives for each management zone for soil resources management. These management objectives are defined as: (1) natural zone - preserve natural soils and the processes of soil genesis in a condition undisturbed by humans; (2) cultural zone - conserve soil resources to the extent possible consistent with maintenance of the historic and cultural scene and prevent soil erosion wherever possible; (3) park development zone - ensure that developments and their management are consistent with soil limitations and soil conservation practices; and, (4) special use zone - minimize soil loss and disturbance caused by special use activities, and ensure that soils retain their productivity and potential for reclamation.

Zones within the recreation area have been designated in the Lake Mead NRA *General Management Plan*, which provides the overall guidance and management direction for Lake Mead NRA.

NPS *Management Policies* defines the general principles for managing biological resources as maintaining all native plants and animals as part of the natural ecosystem. When NPS management actions cause native vegetation to be removed, then the NPS will seek to ensure that such removals will not cause unacceptable impacts to native resource, natural process, or other park resources.

Exotic species, also referred to as non-native or alien, are not a natural component of the ecosystem. They are managed, up to and including eradication, under the criteria specified in *Management Policies* and NPS-77.

Impact Indicators, Criteria, and Methodology: The following impact thresholds were established for the project area.

- *Negligible impacts*: Impacts have no measurable or perceptible changes in soil structure and occur in a relatively small area. Impacts have no measurable or perceptible changes in plant community size, integrity, or continuity.

- *Minor impacts*: Impacts are measurable or perceptible, but localized in a relatively small area. The overall soil structure would not be affected. Impacts are measurable or perceptible and localized within a relatively small area. The overall viability of the plant community would not be affected and, if left alone, would recover.

- *Moderate impacts*: Impacts would be localized and small in size, but would cause a permanent change in the soil structure in that particular area. Impacts would cause a change in the plant community (e.g. abundance, distribution, quantity, or quality); however, the impact would remain localized.

- *Major impacts*: Impact to the soil structure would be substantial, highly noticeable, and permanent. Impacts to the plant community would be substantial, highly noticeable, and permanent.

- *Impairment*: For this analysis, impairment is considered a permanent change in a large portion of the overall acreage of the park. The impact would contribute substantially to the deterioration of the park's native vegetation. These resources would be affected over the long-term to the point that the park's purpose (Enabling Legislation, *General Management Plan*, *Strategic Plan*) could not be fulfilled and resource could not be experienced and enjoyed by future generations.

Wildlife and Wildlife Habitat

Laws, Regulations, and Policies: The NPS Organic Act, which directs parks to conserve wildlife unimpaired for future generations, is interpreted by the NPS to mean native animal life should be

protected and perpetuated as part of the recreation area's natural ecosystem. Natural processes are relied on to control populations of native species to the greatest extent possible. The restoration of native species is a high priority. Management goals for wildlife include maintaining components and processes of naturally evolving park ecosystems, including natural abundance, diversity and ecological integrity of plants and animals.

Impact Indicators, Criteria, and Methodology: The impacts of wildlife were evaluated in terms of impacts to individual animals and wildlife habitat. Specific localized impacts were estimated based on knowledge garnered from similar past activities.

The following are standards used by the NPS in interpreting the level of impact to wildlife:

- *Negligible impacts*: No species of concern is present; no impacts or impacts with only temporary effects are expected.

- *Minor impacts*: Nonbreeding animals of concern are present, but only in low numbers. Habitat is not critical for survival; other habitat is available nearby. Occasional flight responses by wildlife are expected, but without interference with feeding, reproduction, or other activities necessary for survival.

- *Moderate impacts*: Breeding animals of concern are present; animals are present during particularly vulnerable life-stages, such as migration or winter; mortality or interference with activities necessary for survival expected on an occasional basis, but not expected to threaten the continued existence of the species in the park.

- *Major impacts*: Breeding animals are present in relatively high numbers, and/or wildlife is present during particularly vulnerable life stages. Habitat targeted by actions has a history of use by wildlife during critical periods, but there is suitable habitat for use nearby. Few incidents of mortality could occur, but the continued survival of the species is not at risk.

- *Impairment*: The impact would contribute substantially to the deterioration of natural resources to the extent that the park's wildlife and habitat would no longer function as a natural system. Wildlife and its habitat would be affected over the long-term to the point that the park's purpose (Enabling Legislation, *General Management Plan, Strategic Plan*) could not be fulfilled and resource could not be experienced and enjoyed by future generations.

Air Quality

Laws, Regulations, and Policies: Lake Mead NRA is designated as a Class II Air Quality area under the Clean Air Act. The main purpose of this act is to protect and enhance the nation's air quality to promote the public health and welfare. The act establishes specific programs to provide protection for air resources and values, including the program to prevent significant deterioration of air quality in clean air regions of the country. Although Lake Mead NRA is designated as a Class II Air Quality area, the park strives to maintain the highest air quality

standards, and project work within the recreation area is undertaken in accordance with regional standards. However, the recreation area does not possess sufficient autonomous authority to address issues of air quality improvements when air pollution originates outside the boundaries.

NPS *Management Policies* direct parks to seek to perpetuate the best possible air quality to preserve natural and cultural resources, sustain visitor enjoyment, human health, and preserve scenic vistas (4.7). Parks are directed to comply with all federal, state, and local air quality regulations and permitting requirements.

Impact Indicators, Criteria, and Methodology: Information from the literature was used to assess probable impacts to air quality. There are four impact categories relevant to air quality issues: negligible, minor, moderate and major. Each category is discussed below relative to potential airborne pollution impacts from the alternatives on park resources and human health.

- *Negligible impacts*: There is no smell of exhaust and no visible smoke. Dust from construction activities can be controlled by mitigation.

- *Minor impacts*: There is a slight smell of exhaust and smoke is visible during brief periods of time. Dust from use the dirt roads is visible during brief periods. Dust from construction activities is visible only during the work period, but most can be controlled by mitigation.

- *Moderate impacts*: There is a smell of gasoline fumes and exhaust in high-use areas. Smoke is visible during periods of high use. Dust from the use of dirt roads is visible for an extended area. Dust from construction activities is visible for an extended area for an extended period, but is reduced by mitigation.

- *Major impacts*: Smoke and gasoline fumes are easily detectable for extended periods of time in a large area. Dust from the use of dirt roads and construction activities is visible for an extended period for an extended amount of time, and mitigation is unable to alleviate the conditions.

Water Resources and Water Quality

Laws, Regulations, and Policies: The Clean Water Act, and supporting criteria and standards promulgated by the Environmental Protection Agency (EPA), the Nevada Department of Environmental Protection (NDEP), and the Arizona Department of Environmental Quality (ADEQ) are used at Lake Mead NRA to protect the beneficial uses of water quality, including human health, health of the aquatic ecosystem, and recreational use.

A primary means for protecting water quality under the Clean Water Act is the establishment, implementation, and enforcement of water quality standards. Generally, the federal government has delegated the development of standards to the individual states subject to EPA approval. Water quality standards consists of three components: (1) the designated beneficial uses of a water body, such aquatic life, cold water fishery, or body contact recreation (i.e. swimming or wading); (2) the numerical or narrative criteria that define the limits of physical, chemical, and

biological characteristics of water that are sufficient to protect the beneficial uses; and (3) an anti-degradation provision to protect the existing uses and quality of water.

Water quality criteria developed to protect specific uses are updated periodically by the Environmental Protection Agency. New and revised criteria are published in the Federal Register, and summarized periodically in Quality Criteria for Water (U.S. Environmental Protection Agency 1986). Quality Criteria for Water, also known as "the Gold Book," recommends criteria for a state's Water Quality Standards. The criteria are almost always adopted by states as a portion of their standards, and they represent the “minimum” level of protection afforded to the waterbodies of a state.

Water quality standards are primarily obtained by controlling the pollutants permitted in point source discharges of pollutants into receiving waters through Clean Water Act Section 402 National Pollutant Discharge Elimination System (NPDES) permits, the implementation of Best Management Practices for non-point sources of pollution, and the implementation of Clean Water Act Section 303d Total Maximum Daily Loads (TMDL's) on water bodies that have chronic and persistent violations of water quality standards. The objective of a TMDL is to allocate allowable pollutant loads among different point and non-point sources of pollution.

Water quality in Lake Mead is regulated by NDEP under water quality standards and regulations that are promulgated in the Nevada Administrative Code (NAC, Chapter 445A.119-445A.225). Consistent with federal regulations, Nevada has established numerical and narrative standards that protects existing and designated uses of the state’s waters, and implements the anti-degradation requirements by establishing “requirements to maintain existing higher quality.” Compliance with the numerical standards for water quality is determined at control points that are specified in the regulations.

The Lake Mead NRA *Resource Management Plan* identifies internal threats to water resources, including heavy recreation use in coves from excrement and littering and water quality in harbors by illegal sewage discharge and petrochemical spills. External threats are identified as materials transported to the lakes by outside sources, air pollutants dropping into the lakes, and adjacent land uses and increasing development.

The following impact thresholds were established in order to describe the relative changes in water quality (both overall, localized, short, long-term, cumulatively, adverse and beneficial), under the various alternatives, when compared to baseline conditions.

- *Negligible impacts:* Impacts are effects that are not detectable, well below water quality standards and/or historical ambient or desired water quality conditions.

- *Minor impacts:* Impacts are effects that are detectable but well within or below water quality standards and/or historical ambient or desired water quality conditions.

- *Moderate impacts:* Impacts are effects that are detectable, within or below water quality standards, but historical baseline or desired water quality conditions are being altered on a short-term basis.

- *Major impacts:* Impacts are effects that are detectable and significantly and persistently alter historical baseline or desired water quality conditions. Water quality standards are locally approached, equaled, or slightly singularly exceeded on a short-term and temporary basis.

- *Impairment:* Impacts are effects that alter baseline or desired water quality conditions on a long-term basis. Water quality standards are exceeded several times on a short-term and temporary basis.

Cultural Resources

Laws, Regulations, and Policies: Numerous legislative acts, regulations, and NPS policies provide direction for the protection, preservation, and management of cultural resources on public lands. Further, these laws and policies establish what must be considered in general management planning and how cultural resources must be managed in future undertakings resulting from the approved plan regardless of the final alternative chosen. Applicable laws and regulations include the NPS Organic Act (1916), the Antiquities Act of 1906, the National Historic Preservation Act of 1966 (1992, as amended), the National Environmental Policy Act of 1969, the National Parks and Recreation Act of 1978, the Archeological Resources Protection Act of 1979, the Native American Graves Protection and Repatriation Act of 1990, Executive Order 13007 Indian Sacred Sites (1996), and the Curation of Federally Owned and Administered Archeological Collections (1991).

Applicable agency policies relevant to cultural resources include Chapter 5 of NPS *Management Policies*, and the *Cultural Resource Management Guideline (DO-28)*, as well as other related policy directives such as the NPS *Museum Handbook*, the NPS *Manual for Museums*, and *Interpretation and Visitor Services Guidelines (NPS-26).*

The Antiquities Act of 1906 (P.L. 209) authorized the president to establish historic landmarks and structures as monuments owned or controlled by the U.S. government and instituted a fine for unauthorized collection of their artifacts. The NPS Organic Act (16 USC 1-4) established the agency to manage the parks and monuments with the purpose of conserving historic objects within them and providing for their enjoyment.

The National Historic Preservation Act of 1966 (NHPA; 16 USC 470, et seq.) requires in section 106 that federal agencies with direct or indirect jurisdiction over undertakings take into account the effect of those undertakings on properties that are listed on, or eligible for listing on, the National Register of Historic Places. Section 110 of the act further requires federal land managers to establish programs in consultation with the state historic preservation office to identify, evaluate, and nominate properties to the national register. This act applies to all federal undertakings or projects requiring federal funds or permits.

The National Environmental Policy Act of 1969 (NEPA; P.L. 91-190) sets forth federal policy to preserve important historic, cultural, and natural aspects of our national heritage and accomplishes this by assisting federal managers in making sound decisions based on an objective understanding of the potential environmental consequences of proposed management alternatives. This act applies to any federal project or other project requiring federal funding or licensing. This act requires federal agencies to use a systematic, interdisciplinary approach integrating natural and social sciences to identify and objectively evaluate all reasonable alternatives to a proposed action.

The National Parks and Recreation Act of 1978 (P.L. 95-625) requires that general management plans be developed for each unit in the national park system and that they include, among other things, measures for the preservation for the area's resources and an indication of the types and intensities of development associated with public use of a given unit.

The Archeological Resources Protection Act of 1979 (16 USC 470aa-mm) further codifies the federal government's efforts to protect and preserve archeological resources on public lands by stiffening criminal penalties, as well as instituting civil penalties, for the unauthorized collection of artifacts. Additionally, it establishes a permit system for the excavation and removal of artifacts from public lands, including their final disposition, as well as confidentiality provisions for sensitive site location information where the release of such information may endanger the resource.

The Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) sets forth procedures for determining the final disposition of any human remains, funerary objects, or objects of cultural patrimony that are discovered on public lands or during the course of a federal undertaking.

EO 13007, Indian Sacred Sites, 1996 (61 FR 26771) instructs all federal land management agencies, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affected the physical integrity of such sacred sites.

"The Curation of Federally Owned and Administered Archeological Collections" (36 CFR 79) establishes guidelines and procedures for the proper curation and management of archeological collections owned or administered by federal agencies.

Impact Indicators, Criteria, and Methodology: Impacts on cultural resources were developed based on existing conditions, current regulations, and likely development trends. The inventory of archaeological resources in the park is largely incomplete. For purposes of assessing impacts, all unrecorded resources are considered potentially eligible for listing on the National Register of Historic Places.

The park's inventory of standing structures and cultural landscapes is relatively complete; however, many structures and landscapes still require evaluation to determine their eligibility for listing on the National Register of Historic Places. For purposes of assessing potential impacts to these properties, unevaluated structures and landscapes are assumed to be potentially eligible.

Under section 106, only historic resources that are eligible or are listed on the National Register of Historic Places are considered for impacts. An impact, or effect, to a property occurs if a proposed action would alter in any way the characteristic which qualify it for inclusion on the register. If the proposed action would diminish the integrity of any of these characteristics, it is considered to be an adverse effect.

For the purposes of this document, the level of impacts to cultural resources was accomplished using the following criteria:

- *Negligible impacts*: No potentially eligible or listed properties are present; no direct or indirect impacts.

- *Minor impacts*: Potentially eligible or listed properties are present; no direct impacts or impacts with only temporary effects are expected.

- *Moderate impacts*: Potentially eligible or listed properties are present; indirect impacts or, in the case of structures, where activity is limited to rehabilitation conducted in a manner that preserves the historical and architectural value of the property.

- *Major impacts*: Potentially eligible or listed properties present; direct impacts including physical destruction, damage, or alternation of all or part of a property. Isolation of a property from or alteration of the character of a property's setting when that character contributes to its eligibility, including removal from its historic location. Introduction of visual, audible, or atmospheric elements that are out of character with the property of alter its setting. Neglect of a property resulting in its deterioration or destruction (36 CFR 800.5).

- *Impairment*: Loss, destruction, or degradation of a cultural property, resource, or value to the point that it negatively affects the park's purpose and visitor experience.

In the absence of quantitative data concerning the full extent of actions under a proposed alternative, best professional judgement prevailed.

Scenic Quality

Laws, Regulations, and Policies: The enabling legislation of Lake Mead NRA specifically addresses the preservation of the scenic features of the area. The NPS manages the natural resources of the park, including highly valued associated characteristics such as scenic views, to maintain them in an unimpaired condition for future generations (*Management Policies* 4).

Visitor Use and Safety

Laws, Regulations, and Policies: Visitor use in parks is authorized in the NPS Organic Act and managed under the NPS *Management Policies* under Chapter 8, "Use of Parks" that includes commercial as well as public use. Recreational purposes and activities authorized at Lake Mead NRA are more specifically defined in Section 4 of the area's enabling legislation, Public Law 88-639.

Management Policies (8.2.5) establishes the goal of protecting human life and providing for injury-free visits. The NPS and its concessioners, contractors, and cooperators will seek to provide a safe and healthful environment for visitors and employees. Education is identified as an appropriate measure to help improve the safety of visitors. The Lake Mead NRA *Strategic Plan* identifies a goal of providing visitors with a safe recreational experience. It also establishes a goal of reducing the number of visitor accidents and incidents.

Land Use

Laws, Regulations, and Policies: The NPS Organic Act of 1916 directs the NPS to manage units "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such a manner as will leave them unimpaired for the enjoyment of future generations." The enabling legislation for Lake Mead NRA (Public Law [PL] 88-639) established the recreation area "for the general purposes of public recreation, benefit, and use, and in a manner that will preserve, develop and enhance, so far as practicable, the recreation potential, and in a manner that will preserve the scenic, historic, scientific, and other important features of the area."

The Lake Mead Fish Hatchery was established within the recreation area through a Memorandum of Understanding between NDOW and the NPS in 1971. At that time, the NPS and NDOW entered into an agreement that allowed the development, operation, and maintenance of fish hatchery facilities and raring ponds on lands of Lake Mead NRA, to the extent that such development, operation, and maintenance is not incompatible with the development, operation, and maintenance of the recreation area. This agreement was reaffirmed in 1988, and is still considered appropriate at this time.

Impacts to scenic quality, visitor use and experience, and land use were analyzed using the best available information and best professional judgment of park staff.

Terms referring to impact intensity, context, and duration are used in the analysis. Unless otherwise stated, the standard definitions for these terms are as follows:

- *Negligible impacts*: The impact is at the lower level of detection; there would be no measurable change.
- *Minor impacts*: The impact is slight but detectable; there would be a small change.
- *Moderate impacts*: The impact is readily apparent; there would be a measurable change that could result in a small but permanent change.
- *Major impacts*: The impact is severe; there would be a highly noticeable, permanent measurable change.
- *Localized Impact*: The impact occurs in a specific site or area. When comparing changes to existing conditions, the impacts are detectable only in the localized area.
- *Short-Term Effect*: The effect occurs only during or immediately after implementation of the alternative.
- *Long-Term Effect*: The effect could occur for an extended period after implementation of the alternative. The effect could last several years or more and could be beneficial or adverse.

Impairment Analysis

In addition to determining the environmental consequences of the alternatives, impairment to park resources and values have been analyzed within this document. Impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact would be more likely to constitute an impairment to the extent that it effects a resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; is the key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or is identified as a goal in the park's general management plan or other relevant NPS planning documents. An impact would be less likely to constitute an impairment to the extent that it is an unavoidable result, which cannot be reasonably further mitigated, of an action necessary to preserve or restore the integrity of park resources or values.

Cumulative Effects

Cumulative impacts were analyzed for the alternatives and the environmentally preferred alternative. Cumulative impacts are the incremental impacts on the environment resulting from adding the alternatives to other past, present, and reasonably foreseeable future actions. This includes potential actions within and outside the recreation area boundary. The geographical boundaries of analysis vary depending on the impact topic and potential effects. While this

information may be inexact at this time, major sources of impacts have been assessed as accurately and completely as possible, using all available data.

Population growth in the Las Vegas Valley and in Clark County has contributed to increased visitation to the recreation area and can contribute to impacts associated with land use within and outside the recreation area boundary. According to the U.S. Census Bureau, in 2000, the population of the greater Las Vegas area was estimated at just over 1.4 million. It is predicted that the population of the Las Vegas area will reach two million people by 2005. Clark County grew by more than 80,000 new residents between 2000 and 2001. With the predicted increases in population in the local area, and continuing visitation from California and Arizona, park visitation will continue to increase above the current 8 to 10 million visitors per year. Facility development within the recreation area has been reflected in the increased population and visitation. Facility development in the Boulder Basin area has included reconstruction of the Lakeshore and Northshore roads, new road alignment of Lakeshore Road, improved visitor facilities including viewpoints and picnic areas, and the expansion of the Southern Nevada Water System water treatment facilities.

Future planned development related to visitor use in the recreation area, which could contribute to cumulative impacts, includes the construction of River Mountain Loop Trail (currently being evaluated in a separate environmental document to be released this spring), the construction of a water safety center at Boulder Beach, and the construction of the Hoover Dam Bypass. In addition, there are planning efforts underway to address the water quality concerns of Lake Mead relative to the predicted increases in the outflow of treated effluent, stormwater drainage, and run-off from the Las Vegas Valley. This includes the potential to construct an alternative discharge from the Las Vegas Valley.

Development has also occurred outside the recreation area boundaries and adjacent resources have been affected. Development has included the construction of homes and golf courses in nearby communities, road improvements, the construction of waterlines, and trail construction.

The park is completing the *Lake Management Plan* that establishes management direction for the recreational uses of the lakes. Within this plan are alternatives that address zoning for a variety of recreational uses including shoreline fishing. Shoreline fishing and stocking areas dependent on the Lake Mead Fish Hatchery are identified in the *Lake Management Plan*. In addition, activities associated with low water conditions of Lake Mead including marina relocation, extension of boat ramps and access roads, will be evaluated in an amendment to the Lake Mead NRA *General Management Plan*.

ALTERNATIVE A: NO ACTION

Under the no action alternative the Lake Mead Fish Hatchery would not undergo renovation. It would continue to operate under deteriorated conditions and lack of adequate housing to provide emergency coverage. The proposed 7,950-foot waterline would not be constructed.

Soils and Vegetation: There would be no impact to soils and vegetation under this alternative since the renovation/construction would not occur within the recreation area.

Cumulative Impacts: There would be no cumulative impacts under the no action alternative to soils and vegetation.

Conclusion: There would be no impacts and no impairment to soils and vegetation from Alternative A.

Wildlife: There would be no impact to wildlife under this alternative since renovation and construction would not occur.

Cumulative Impacts: There would be no cumulative impacts to wildlife.

Conclusion: There would be no impacts and no impairment to wildlife from Alternative A.

Air Quality: There would be no impacts to air quality under this alternative since no renovation/construction would occur.

Cumulative Impacts: Impacts in the vicinity of Boulder Beach to air quality are evident during windy conditions when particulate matter and dust are visible. Visual impacts to air quality in the Boulder Beach area can occur when pollution from adjacent communities circulates into the recreation area. The primary impact is haze and reduced clarity of the air.

*Conclusion***:** There are ongoing cumulative impacts from surrounding areas and dust and wind conditions. There would be no additional impacts to air quality from this alternative and no impairment of air quality.

Water Resources: There would continue to be impacts to water resources from the settling ponds, which are minimally effective. There is the potential that the Department of Environmental Protection water quality standards for return to Lake Mead would not be met on a short-term or temporary basis under current conditions, causing potentially major impacts.

Cumulative impacts: Water quality standards are being met elsewhere in Lake Mead. However, as the population increases, and more run-off and treated effluent enters Lake Mead from Las Vegas through Las Vegas Wash, there is the potential that, without future planning efforts, water quality standards could be temporarily exceeded in certain locations within Lake Mead. This, combined with the impacts associated with not improving the system at the Hatchery, could lead to long-term, localized cumulative adverse impacts.

Conclusion: There could be potentially major impacts from not improving the settling pond system at the Hatchery. There could be long-term, localized cumulative adverse impacts when considering this impact relative to existing and future water quality impacts associated with the run-off from the Las Vegas Valley. There would be no impairment to water quality from the impacts associated with this alternative.

Cultural Resources: There would be no impacts to cultural resources under this alternative since no renovation/construction or ground disturbance would take place. There would be no impacts to sacred sites.

Cumulative: No cumulative impacts would occur to cultural resources.

Conclusion: There would be no impacts to cultural resources from Alternative A and no impairment to cultural resources.

Scenic Quality: There would be no impact to scenic quality.

*Cumulative Impacts***:** The scenic quality of the Boulder Beach developed zone has been previously impacted by the existing facilities. The facilities located in the zone, including the campgrounds, ranger station, lodge and water treatment plant are not natural in appearance and could detract from the scenery. However, visitors to the developed zones generally expect buildings and facilities. There are opportunities nearby for natural scenes.

Conclusion: No additional impacts to scenic quality would occur as no renovation/construction would take place. No impairment would occur.

Visitor Use and Experience: Visitors would not be provided with a sustainable fish hatchery facility where NDOW can produce trout to support the recreational fishing at Lake Mead. Visitors may not be satisfied with the inefficiency of the hatchery operations. Visitors would not be satisfied by their recreational experience at Lake Mead NRA if they are not able to have a positive fishing experience.

Cumulative Impacts: Visitor use would remain unaltered. Some dissatisfaction would continue and could increase without improved hatchery operations.

Conclusion: The no action alternative could negatively impact visitor use by not providing opportunities for recreational trout fishing. Visitors would be dissatisfied if they repeatedly have an unsuccessful fishing experience. There could be moderate adverse impacts.

Land Use. The existing land use would not change. There would be no additional acres added to the lease site of the Lake Mead Fish Hatchery.

Cumulative Impacts: No impact.

Conclusion: There would be no impact to land use from the no-action alternative.

ALTERNATIVE B – CONSTRUCTION AND RENOVATIONS TO FISH HATCHERY (The Management Preferred and Environmentally Preferred Alternative)

Soils and Vegetation: An area of 24.55 acres would be permanently disturbed due to construction activities. This is an addition of 7.46 acres to the area already occupied by fish

hatchery operations and facilities. Although the majority of the new acreage is comprised of bare ground with some annual plants, there would be some shrubs removed, including creosote, brittlebush, sweetbush, and catclaw. All non-native plants, such as salt cedar and oleander, would be removed from the facility. The area not occupied by the hatchery structures and residential units would be landscaped with native vegetation or plants consistent with the Lake Mead NRA vegetation management plan.

An additional 1.8 acres would be altered in the construction of a 7,950-foot waterline connecting the Hatchery with the Alfred Merritt Smith Water Treatment Plant. This area was recently disturbed and rehabilitated as part of the reconstruction of Lakeshore Drive. The impact of road construction was addressed in the Final Environmental Impact Statement for the Reconstruction of Lakeshore Drive (1993).

Even with mitigation, non-native plants could occupy the disturbance areas. This could lead to a temporary or permanent change in the plant community, depending on the success of monitoring and control measures. It would be initially localized in the areas of disturbance, but could spread to other adjacent areas, particularly if there was a water source present.

Cumulative Impacts: The Boulder Beach developed zone has been heavily impacted by the development of facilities. The purpose of the developed zones is to provide facilities that support visitor use. The Lake Mead Fish Hatchery is consistent with this zoning use. Developed zones throughout the recreation area have impacted approximately 800 acres of the recreation area's 1.3 million terrestrial acres. The project area is located within a developed zone and would account for 24.55 acres of impact to the recreation area. The waterline would add an additional two acres that would be re-disturbed as part of this project.

Conclusion: Approximately 26.5 acres have been disturbed due to the existing hatchery operation and 7.46 additional acres of this area's soil and vegetation would be disturbed under this alternative. The project is located primarily in a previously disturbed development zone, and the project would not affect the overall viability of the plant community, therefore, this impact is considered a minor adverse impact. However, due to the potential for the spread of non-native vegetation from the project site to adjacent areas, impacts to the plant community could be moderate. Mitigation should help reduce this impact. In addition, some beneficial effects would occur due because the Hatchery would be replacing all non-native landscaping with native desert vegetation. No impairment of soils and vegetation would occur as a result of the impacts associated with this alternative.

Wildlife: There are small mammals, birds, and reptiles located within the construction zone. These animals could be directly impacted by the construction activities through loss of nests, dens and burrows, and loss of life. Approximately 7.46 acres of new habitat would be permanently modified under this alternative. This is a small area of low quality wildlife habitat, and generally, wildlife would move away from the construction activities. There is available habitat nearby. This is a minor impact since the majority of the site is already developed so few species could be disturbed. Larger mammals, like coyotes, would avoid the project area during renovation and construction activities.

Cumulative Impacts: Wildlife habitat in the Boulder Beach development zone, and other development zones, has been permanently altered by the construction of facilities, parking lots, and the planting and irrigation of non-native vegetation. The area still supports some wildlife, such as small mammals, reptiles, birds, and coyotes. This alternative would displace additional wildlife, but would only minimally add to the loss of habitat since the area is inside the development zone and considered low quality habitat.

Conclusion: Minor adverse impacts to wildlife would occur from the loss of a small portion of habitat due to new construction within the development zone. Construction could permanently displace or potentially injure or kill the few animals that can not move away from the construction activities. No impairment to wildlife or wildlife habitat would occur as a result of the impacts associated with this alternative.

Air Quality: There would be slight, localized impacts to air quality during the construction activity, but mitigation would reduce these measures. Construction activities generate dust and pollution from the use of heavy equipment. This would occur only during construction, for a period of 3 to 6 months, and would be localized in the construction zone. Mitigation would help reduce these impacts.

Cumulative Impacts: Cumulative impacts to air quality were discussed under Alternative A. This project would not add to those impacts other than on a localized basis during the construction period.

Conclusion: There would be minor adverse impacts to air quality in the construction zone. No impairment would occur to air quality as a result of the impacts associated with this alternative.

Water Resources: Due to Hatchery improvements proposed under this alternative, including improving the existing treatment system and settling ponds, it is reasonable to expect that in the future, water quality standards would be met for the discharge of treated water back into Lake Mead from the Hatchery. Therefore, water quality on a localized basis would improve under this alternative.

Cumulative Impacts: As discussed under alternative A, there are concerns about the future water quality of Lake Mead. It is hoped that ongoing and future planning efforts would help maintain and even improve the existing water quality of Lake Mead.

Conclusion: Water quality in Lake Mead near the Hatchery should benefit from the improvements proposed under this alternative. There would be no impairment to water resources from the impacts associated with this alternative.

Cultural Resources: The project area was inventoried for cultural resources and none were located within the APE (Gushue 2003). The pipe line from the water treatment facility to the fish hatchery will be installed in previously disturbed road shoulders and will have no effect on cultural resources. There would be no impact to cultural resources under this alternative.

Cumulative Impacts: No cumulative impacts would occur to cultural resources.

Conclusion: There would be no impact to cultural resources from Alternative B and no impairment of cultural resources.

Scenic Quality: This project is generally consistent with the standards for the recreation area development zones. It could detract from the scenic quality of the Boulder Beach development zone if construction is not completed in an environmentally sensitive manner. The mitigation of the project, including using an earthern berm and landscaping to screen the area from the lake, would reduce the level of impact under this alternative and actually create beneficial effects from eliminating the Hatchery from the lake view.

Cumulative Impacts: The cumulative impacts to the area are similar to those discussed under Alternative A. The proposed project would add three residences to the Boulder Beach development zone, but the building design, coloring, landscaping, and screening would help the facilities blend in with the surrounding desert and not add to the existing impacts. There are no further plans for building construction at this site.

Conclusion: Buildings do detract from the scenic quality of an area. However, this impact is considered negligible since visitors expect services and buildings within development zones. No impairment of the scenic resources would occur from the impacts associated with this alternative.

Visitor Use: Visitors would benefit from the renovation of the Lake Mead Fish Hatchery as this facility would produce trout in support of recreational fishing within Lake Mead NRA. Major portions of fish produced at the Hatchery are planted within Lake Mead NRA at planting sites on Lakes Mead and Mohave. This would enhance the quality of the shoreline fishery and thus support maintaining the diversity of recreational opportunities with Lake Mead NRA.

Cumulative Impacts: No cumulative impacts would occur to visitor use.

Conclusion: This facility would serve the visitors and could improve their recreational experiences by enhancing the recreational fishing opportunities. There would be beneficial effects to visitor use.

Land Use. Approximately 7.46 acres of land would be added to the Lake Mead Fish Hatchery lease area. This land would no longer be available for public recreation as it would be used for the Hatchery facilities.

Cumulative Impacts: Acreage in the Boulder Basin Development Zone has been utilized for a variety of non-recreational purposes, including the Southern Nevada Water Authority easement area. This project would further remove 7.46 acres from lands that are available for recreation use and resource protection.

Conclusion: Based on the amount of available acreage, this project would have minor impacts to land use in the recreation area. There would be no impairment to park resources.

SECTION V: COORDINATION AND CONSULTATION

This project is a cooperative effort between the NPS and the Nevada Division of Wildlife.

Scoping for this project was conducted by a press release in local newspapers (Appendix B) and through letters to interested parties on the NPS and NDOW mailing lists. The 15-day scoping period took place between November 14 and December 2, 2002. No comments were received. Public notice of the availability of this environmental assessment was published in local newspapers, and on the Lake Mead NRA Internet Web site (http://www.nps.gov/lame). Individuals and organizations could request the environmental assessment in writing, by phone, or by e-mail. The environmental assessment was circulated to various federal and state agencies, individuals, businesses, and organizations on the park's mailing list for a 30-day public review period. Copies of the environmental assessment were made available at area libraries.

The Moapa Paiute Tribe, Pahrump Paiute Tribe, and the Las Vegas Paiute Tribe will be consulted with on the proposed project.

A copy of the environmental assessment can be obtained by direct request to:

National Park Service
Lake Mead National Recreation Area
Attention: Fish Hatchery Project
601 Nevada Way
Boulder City, Nevada 89005
Telephone: (702) 293-8756
Facsimile: (702) 293-8008

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SECTION VI: LIST OF PREPARERS

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The following persons and agencies were consulted during the preparation of this environmental assessment.

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SECTION VII: REFERENCES

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Listing of Threatened and Endangered Species – State of Nevada
http://ecos.fws.gov/webpage/webpage_region_lists.html
Accessed on February 3, 2003

Nevada -- 37 listings

Animals -- 29

Status	Listing
E	Chub, bonytail (*Gila elegans*)
E	Chub, Pahranagat roundtail (*Gila robusta jordani*)
E	Chub, Virgin River (*Gila seminuda (=robusta*)
E	Cui-ui (*Chasmistes cujus*)
E	Dace, Ash Meadows speckled (*Rhinichthys osculus nevadensis*)
E	Dace, Clover Valley speckled (*Rhinichthys osculus oligoporus*)
T	Dace, desert (*Eremichthys acros*)
E	Dace, Independence Valley speckled (*Rhinichthys osculus lethoporus*)
E	Dace, Moapa (*Moapa coriacea*)
T	Eagle, bald (lower 48 States) (*Haliaeetus leucocephalus*)
E	Flycatcher, southwestern willow (*Empidonax traillii extimus*)
E	Frog, mountain yellow-legged (southern California DPS) (*Rana muscosa*)
T	Naucorid, Ash Meadows (*Ambrysus amargosus*)
E	Poolfish, Pahrump (*Empetrichthys latos*)
E	Pupfish, Ash Meadows Amargosa (*Cyprinodon nevadensis mionectes*)
E	Pupfish, Devils Hole (*Cyprinodon diabolis*)
E	Pupfish, Warm Springs (*Cyprinodon nevadensis pectoralis*)
E	Skipper, Carson wandering (*Pseudocopaeodes eunus obscurus*)
T	Spinedace, Big Spring (*Lepidomeda mollispinis pratensis*)
E	Spinedace, White River (*Lepidomeda albivallis*)
E	Springfish, Hiko White River (*Crenichthys baileyi grandis*)
T	Springfish, Railroad Valley (*Crenichthys nevadae*)
E	Springfish, White River (*Crenichthys baileyi baileyi*)
E	Sucker, razorback (*Xyrauchen texanus*)
T(S/A)	Tortoise, desert (outside/taken from Sonoran Desert) (*Gopherus agassizii*)
T	Tortoise, desert (U.S.A., except in Sonoran Desert) (*Gopherus agassizii*)
T	Trout, bull (U.S.A., conterminous, lower 48 states) (*Salvelinus confluentus*)
T	Trout, Lahontan cutthroat (*Oncorhynchus clarki henshawi*)
E	Woundfin (except Gila R. drainage, AZ, NM) (*Plagopterus argentissimus*)

Plants -- 8

Status	Listing
T	Milk-vetch, Ash meadows (*Astragalus phoenix*)
T	Centaury, spring-loving (*Centaurium namophilum*)
T	Sunray, Ash Meadows (*Enceliopsis nudicaulis* var. *corrugata*)
E	Buckwheat, steamboat (*Eriogonum ovalifolium* var. *williamsiae*)
T	Gumplant, Ash Meadows (*Grindelia fraxino-pratensis*)
T	Ivesia, Ash Meadows (*Ivesia kingii* var. *eremica*)
T	Blazingstar, Ash Meadows (*Mentzelia leucophylla*)
E	Niterwort, Amargosa (*Nitrophila mohavensis*)

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National Park Service
U.S. Department of the Interior

Lake Mead
National Recreation Area

601 Nevada Highway
Boulder City, NV 89005

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Lake Mead NRA News Release

November 14, 2002
For Immediate Release
Karla Norris, 702-293-8947
Karla_Norris@NPS.gov

National Park Service and Nevada Division of Wildlife to Evaluate Lake Mead Hatchery Refurbishment Proposal

The National Park Service is working with the Nevada Division of Wildlife to evaluate proposed improvements to the Lake Mead Hatchery, located on the west side of Lake Mead within Lake Mead National Recreation Area.

The hatchery was constructed in 1972, put into production in 1973, and commenced stocking fish in 1974. The hatchery produces an annual average of 500,000 rainbow trout, about half of which are planted in Lakes Mead and Mohave.

Under the proposal, the Lake Mead Hatchery will be renovated to upgrade the existing facilities. Included in the proposed project is the installation of new piping, values and fencing, reconstruction of the hatchery building and settling ponds, and construction of three new housing units.

The National Park Service will be analyzing this proposal in accordance with the National Environmental Policy Act (NEPA) of 1969. Public comment and feedback is sought to develop alternatives and issues associated with the proposed projects. The proposal will be evaluated in an environmental assessment, which will be released this winter. Comments will be accepted until December 2, 2002.

For further information on the project, contact Environmental Compliance Specialist Nancy Hendricks at (702) 293-8756 or the Nevada Division of Wildlife Southern Region Wildlife Education Specialist Elsie Sellars at (702) 486-5127.

To submit written comments, or to be included on the project mailing list, write to: Superintendent, Lake Mead National Recreation Area, Attention: Lake Mead Hatchery Project, 601 Nevada Way, Boulder City, Nevada 89005.

Lake Mead National Recreation Area is a unit of the National Park Service.

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